

## REMARKS

Claims 1, 2 and 13 have been amended. Claims 1-2 and 4-15 remain for further consideration. No new matter has been added.

The objections and rejections shall be taken up in the order presented in the Official Action.

1. Claims 1 and 6 currently stand rejected for allegedly being anticipated by Leu's "Evaluation of gas mixtures with different sensitive layers incorporated in hybrid FET structures" (hereinafter "Leu").

As amended claim 1 recites "*an alcohol detecting gas-sensitive layer*". (emphasis added, cl. 1). There is no alcohol detecting gas-sensitive layer in the semiconductor of Leu. **Alcohol is not even mentioned in Leu.** A 35 U.S.C. §102 rejection requires that a single prior art reference disclose each feature of the claimed invention. It is respectfully submitted that Leu is incapable of anticipating the subject matter of claim 1 since it fails to disclose an alcohol sensor that includes an alcohol detecting gas-sensitive layer.

The rejection of claims 4 and 5 is moot since they depend from claim 1, which is patentable for at least the reasons set forth above.

2. Claims 1, 4 and 5 currently stand rejected for allegedly being anticipated by U.S. Patent 3,663,870 to Tsutsumi (hereinafter "Tsutsumi")

The Official Action contends Tsutsumi discloses "[t]he semiconductor device comprises a gas sensitive field effect transistor that comprises a substrate" and "a gas sensitive layer comprising inorganic metal oxide". (Official Action, pg. 2). However, it is respectfully

submitted that these contentions are technically incorrect and based upon an overly broad reading of Tsutsumi. Specifically, Tsutsumi merely discloses a semiconductor passivated with a rare earth oxide layer. There is no alcohol detecting gas-sensitive layer in the semiconductor of Tsutsumi. **Alcohol is not even mentioned in Tsutsumi.** Tsutsumi merely discloses gas in the context of fabricating the semiconductor device, and nothing about an alcohol detecting gas-sensitive layer during operation of the semiconductor.

A 35 U.S.C. §102 rejection requires that a single prior art reference disclose each feature of the claimed invention. It is respectfully submitted that Tsutsumi is incapable of anticipating the subject matter of claim 1 since it fails to disclose an alcohol sensor that includes an alcohol detecting gas-sensitive layer.

The Examiner alleges that Tsutsumi discloses each and every structural element as the instant claim does and is therefore structurally capable of performing as an alcohol detector. The Examiner further alleges that the Applicant recites limitations in the manner in which the sensor is being used, and as a result does not attribute patentable weight in claims directed to a device. It is respectfully submitted that the Examiner is improperly failing to consider the claim as a whole. However to remove any ambiguity, claim 1 has been amended to structurally define the gas-sensitive layer as "an alcohol detecting gas sensitive layer." Accordingly, it is respectfully submitted that Tsutsumi is incapable of anticipating the subject matter of claim 1 since it fails to disclose an alcohol sensor that includes an alcohol detecting gas-sensitive layer.

The rejection of claims 4 and 5 is moot since they depend from claim 1, which is patentable for at least the reasons set forth above.

3. Claims 1 and 2 currently stand rejected for allegedly being anticipated by DE Patent 4028062 (hereinafter “Wenker”)

As amended claim 1 recites an alcohol sensor that comprises an alcohol detecting gas-sensitive layer. The Official Action contends Wenker discloses “...*a substrate having a source and a drain that are physically separate to the gate electrode in that the insulation film provide the physical separate.*” (Official Action, pg. 7). It is respectfully submitted that the claimed invention as a whole is not being properly considered. Specifically, claim 1 recites:

“...at least one gas-sensitive field-effect transistor which comprises at least one substrate having source and drain areas and at least one gate electrode located at a distance from the source and drain areas such that a vacant space between the gate electrode on the one hand and the source and drain areas on the other hand is formed,

wherein an alcohol detecting gas-sensitive layer comprising a polymer or an inorganic metal oxide is applied to the gate electrode such that the vacant space is located between the gas-sensitive layer on the one hand and the source and drain areas on the other hand.” (emphasis added, cl. 1).

As known, the term “vacant” is defined as “1. *as having no contents; empty.* 2. *not occupied or taken; a vacant job.*” The Random House College Dictionary, Revised Edition, 1984, ISBN 0-394-43600-8. In a semiconductor device, an insulator layer is an actual physical layer, such as of silicon dioxide. In contrast, the alcohol sensor of the claimed invention recites the feature that the space located between the gas-sensitive layer and the source/drain is vacant. Gas to be tested is allowed to flow into this vacant space to test for the presence of alcohol. Examination of the figures of Wenker clearly reveals that there is no vacant space as recited in claim 1, since each cross-sectional section above the substrate is cross hatched, and thus there is no vacant space between the semiconductor layers illustrated in Wenker.

A 35 U.S.C. §102 rejection requires that a single prior art reference disclose each feature of the claimed invention. It is respectfully submitted that Wenker is incapable of anticipating the subject matter of claim 1 since it fails to disclose structure that provides for vacant space as claimed, and also fails to disclose an alcohol detecting gas-sensitive layer comprising a polymer or an inorganic metal oxide.

4. Claims 1, 6, 7 and 10 currently stand rejected for allegedly being anticipated by U.S. Patent 4,638,346 to Inami (hereinafter “Inami”).

As amended claim 1 recites an alcohol sensor that comprises a alcohol detecting gas-sensitive layer. Inami never discloses the detection of alcohol, and more specifically with respect to structure never discloses an alcohol detecting gas-sensitive layer.

Although the Official Action contends that the subject matter of claim 1 is anticipated by Inami, the Official Action fails to even identify where in Inami there is any structure operable as an alcohol sensor, and more specifically where there is structure such as the claimed a alcohol detecting gas-sensitive layer. Inami discloses detecting moisture – claim 1 of the present application is directed to an alcohol sensor – detecting moisture is not the same as detecting alcohol. A 35 U.S.C. §102 rejection requires that a single prior art reference disclose each feature of the claimed invention. It is respectfully submitted that Inami is incapable of anticipating the subject matter of claim 1 since it fails to disclose an alcohol detecting gas-sensitive layer.

The rejection of claims 6, 7 and 10 is moot since they depend from claim 1, which is patentable for at least the reasons set forth above.

5. Claims 7-9 currently stand rejected for allegedly being obvious in view of the combined subject matter disclosed in Wenker and Inami

It is respectfully submitted that this rejection is now moot since these claims depend from claim 1, which is patentable for at least the reasons set forth above.

6. The indication that claims 11 and 12 are allowed is noted and appreciated.

7. The indication that claim 13 contains allowable subject matter and would be allowed if rewritten to no longer depend from a rejected base claim is noted and appreciated.

Claim 13 has been amended such that it now depends from allowed claim 12. It is respectfully submitted that previously presented claims 14 and 15 should also be allowed since they also depend from allowed claim 12.

For all the foregoing reasons, reconsideration and allowance of claims 1-2 and 4-15 is respectfully requested.

If a telephone interview could assist in the prosecution of this application, please call the undersigned attorney.

Respectfully submitted,



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